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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,677	10/17/2006	Heather K. Kranz	58913US004	1712
32692 7590 09/14/2011 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER NELSON, MICHAEL B				
ART UNIT 1798		PAPER NUMBER		
NOTIFICATION DATE 09/14/2011		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com

**Office Action Summary****Application No.**

10/564,677

**Applicant(s)**

KRANZ ET AL.

**Examiner**

MICHAEL NELSON

**Art Unit**

1798

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 31-42 and 51-54 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 31-42, 51-54 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's arguments of 07/19/11 have been entered. As a result of applicant's arguments, particularly that the Tait reference was commonly assigned, the rejections using the Tait reference are withdrawn. However, the rejections that did not use the Tait reference are maintained. Claims 31-42 and 51-54 are currently under examination on the merits.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 31-35, 37-42, 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (WO 01/096104) in view Neavin et al. (U.S. 2001/0013668) in view of Soodak et al. (U.S. 4,945,203).

Regarding claims 31 and 51-54, Liu et al. discloses a non-metallic polymer based optical film which achieves the instantly claimed optical properties (See Claims 14 and 20 which read on the limitations of instant claims 51 and 52). Liu et al. also discloses that delamination of the layers in the film should be avoided (first full paragraph, page 25). Liu et al. discloses a laminate with more than 100 layers which is bonded on both sides by PVB and then bonded on those both sides by glass (Example 2, Page 29-30 and Fig. 3). Liu et al. does not disclose the peripheral sealing of the multilayer film.

Neavin et al. discloses a method of continuously forming optical films, including multilayer birefringent films ([0021], Fig. 1, [0022]-[0024]). This production method would be obvious to use for the film of Liu in order to make production of the film more economical. Neavin discloses cutting of the film to a final shape for a particular application ([0183]) but does not disclose laser cutting. Soodak et al. discloses a method of cutting shapes from a continuous sheet of plastic material with a laser in which the laser is configured to cut and weld the edges of the cut sheets in a way that allows the depth of the welded edge to be controlled (C4, L1-15 and C7, L60-C8, L5 and C11, L40-65, disclosing that the area of the defocused welding laser beam can be controlled to be as much as 0.5 inches). The use of the laser is known in the art to have advantages over other cutting techniques in that it can be configured to a variety of shapes by

computer control (as opposed to die cutters can only cut one type of shape) (C3, L10-25). The welding aspect of the laser beam would also advantageously reduce delamination problems which were disclosed as an area of concern in Liu (first full paragraph, page 25). Hence it would have been obvious to have used the laser cutting welding technique of Soodak to cut the optical film produced by the more economical process of Neavin/Liu into the final desired shape.

Regarding claim 32, the laser cutting method of Soodak would only fuse the periphery and not the center portions of the film and would prevent delamination. Regarding claim 33, Liu et al. discloses a laminate with more than 100 layers which is bonded on both sides by PVB and then bonded on those both sides by glass (Example 2, Page 29-30 and Fig. 3). With respect to claim 34, Liu discloses that the PVB layers are laminated (i.e. fully bonded) to the microlayer stack (Fig. 3). Since the sheets are coextensive, the bonding of the optical film and the PVB layers is considered fully bonded. With respect to claim 35, the peripheral edges of all the layers in the glazing assembly are disclosed as being substantially coextensive (Fig. 3). With respect to claim 37 and 40, since the bonding PVB layers do not surround the exposed edge of the optical film (Fig. 3) the optical film is not fully encapsulated by the bonding layers. With respect to claims 39, 41, 42, the laser techniques of Soodak provide for fusing (intermingling) of the layers during the welding of their edges and Soodak discloses that the depth of this weld can be controlled to up to 0.5 inches (C11, L40-65). The remaining portions would not be so fused. With respect to claim 38, the glazing of modified Liu et al. would be suitable for a vehicle window.

6. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (WO 01/096104) in view of Neavin et al. (U.S. 2001/0013668) in view of Soodak et al. (U.S. 4,945,203) as applied to claim 33 above, and further in view of Gourio (U.S. 6,334,382).

Regarding claim 36, modified Liu et al. discloses all of the limitations as set forth above. Liu et al. does not disclose that the optical film extend beyond the peripheral edge of the bonding layers. Gourio discloses an optical laminate in which an optical layers (3 and 2) extends past the bonding layers (9) (Fig. 2). Gourio also discloses that bonding layer 9 can be made into two separate layers on either side of the optical layer (3 and 2) by reducing the gap between portion 3 and portion 2 (C3, L25-50). The extension of the layer (i.e. portion 3) is disclosed as improving impact resistance of the glass laminate (C2, L5-20).

The inventions of both modified Liu et al. and Gourio are drawn to the field of optical laminates and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the optical film layer dimensions of modified Liu et al. by extending the layer as taught by Gourio for the purposes of imparting improved impact resistance.

#### ***Response to Arguments***

7. Applicant's arguments of 07/19/11 have been considered but are not persuasive. Applicant argues that because Neavin discloses selecting compatible materials to prevent delamination, the method of edge fusing the layers, as taught by Soodak, would not be obvious. Applicant seems to be arguing that Neavin completely solves the problem of interlayer delamination. This is not so. Neavin only discloses one mechanism that helps prevent

delamination. The edge fusing technique of Soodak would further protect the layers from delamination and would therefore be an obvious back-up method of preventing delamination.

8. Applicant also argues that the technique of Soodak is not directed towards optical films and is therefore non-analogous; however, Neavin specifically calls for cutting the continuous roll of film to the desired shape ([0183]) and Soodak discloses a laser technique for cutting sections of a continuous film to a desired shape and therefore is analogous and relevant to the Neavin method. Also there is no evidence that the laser technique would harm the optical properties of the film. In fact, the controllability of the laser of Soodak would indicate compatibility with optical films.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL NELSON whose telephone number is (571)270-3877. The examiner can normally be reached on Monday through Friday 6AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571) 272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela Ortiz/  
Supervisory Patent Examiner, Art Unit 1798

/MICHAEL B NELSON/  
Examiner, Art Unit 1798  
09/06/11